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10/574,014

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Shinzo Tomonaga

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EXAMINER

ZHANG, JUE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/574,014	<b>Applicant(s)</b> TOMONAGA, SHINZO	
	<b>Examiner</b> JUE ZHANG	<b>Art Unit</b> 2838	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 03 November 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 4-11 is/are pending in the application.
- 4a) Of the above claim(s) 11 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 4-10 is/are rejected.
- 7) ☒ Claim(s) 10 is/are objected to.
- 8) ☒ Claim(s) 11 are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### DETAILED ACTION

1. This Office action is in answer to the response filed on 11/3/2008. Claims 4-11 are pending, of which the claim 4 is amended and claims 5 -11 are newly added by the present amendment.

### *Election/Restrictions*

2. Newly submitted claim 11 is directed to inventions that are independent or distinct from the inventions originally claimed for the following reasons:

Invention I: the original presented claim 4 and newly added dependent claims 5 -10, drawn to an electric power converter,

Invention II: the new claim 11, drawn to a method of using Invention I.

Inventions I and II are related as product and process of using the product. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product. See MPEP § 806.05(h). In the instant case of invention I and II, the product of invention I can be used in a materially different process of supplying power to a load without copying characteristics from a first storage unit of the main circuit unit to a second storage unit of the other control unit.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, **newly added claim 11 withdrawn from**

consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 4-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicant recites the limitations of claim 4 that: "... an AC voltage having **an arbitrary frequency and an arbitrary voltage**..." Apparently an AC voltage having **an arbitrary frequency and an arbitrary voltage** would render the limitation indefinite. Applicant further recites: the limitation: "...a setting for **display**". It is unclear because there is no evidence in the specification of the meaning of the "Display" and no proper antecedence in the disclosure/specification/drawings can be found. Therefore, the metes and bounds of the claim are unclear. Applicant's correction is required.

5. For claim 6, Applicant further recites the limitation: "... **a DC voltage detecting unit configured to detect the second AC voltage**...", however, no proper antecedence can be found in the disclosure/specification/drawings for the claimed limitation above. Apparently in Fig. 1 and 4 of the disclosed drawings a DC Voltage

Detecting Unit (63) is used to detect the output DC voltage of the Converter Unit 61. Therefore, the metes and bounds of the claim are unclear. Applicant's correction is required. .

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claim 4 is rejected under 35 U.S.C. 102(b) as being anticipated by Stich et al. (US Patent No. 5790391, hereinafter '391).

Claim 4, '391 teaches An electric power converter (Fig. 1-8) comprising:  
a main circuit unit (Fig. 1) comprising:  
a converter unit (32, 34, 36) configured to convert a first alternating current (AC) voltage into a direct current (DC) voltage (Fig. 1);  
a switching unit (56) comprising a switching element configured to convert the DC voltage into a second AC voltage, wherein the second AC voltage has an arbitrary frequency and an arbitrary voltage and that outputs the second AC voltage (e.g., 26) is supplied to a load (Abstract ); and  
a first storage unit (i.e., the storage of 38) configured to store at least: characteristics of the main circuit unit, calibration values of the plurality of detectors, a production history, an operation history, and specifications of the main circuit unit; and

a plurality of detectors (e.g., 44, 60); and

a control unit (e.g., the PC connected through 64) comprising a second storage unit (i.e., the storage in the PC is implicitly taught) configured to pre-store setup information, wherein the setup information includes a setting for driving a which includes an operating mode of the load or a setting for display (col. 11 lines 8-23), wherein the control unit is configured to control the switching element to reach a desired on or off state based on- information concerning an operation of the load preset by the second storage unit and based information provided by the plurality of detectors (col. 11 lines 8-23) (Fig. 1).

wherein the main circuit unit and the control unit are detachably attached to each other such that the control unit can be replaced with another control unit which is different from the control unit (i.e., the PC computer can be replaced by another identical one having the same communication interface with the main unit)(Fig. 1).

### ***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 4-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakurai (US Patent No. 6335870, hereinafter '870), in view of Kandatsu (US Patent No. 5268832, hereinafter '832).

Claims 4-7, '870 teaches an electric power converter (Fig. 1-6) comprising:  
a main circuit unit (Fig. 1) comprising:  
a converter unit (31) configured to convert a first alternating current (AC) voltage into a direct current (DC) voltage;  
a switching unit (33) comprising a switching element configured to convert the DC voltage into a second AC voltage, wherein the second AC voltage has an arbitrary frequency and an arbitrary voltage and that outputs the second AC voltage is supplied to a load (40); and  
a first storage unit (4) configured to store at least: characteristics of the main circuit unit, calibration values of the plurality of detectors, a production history, an operation history, and specifications of the main circuit unit; and  
a control unit (7) comprising a second storage unit (i.e., the storage in the PC computer 7 is implicitly taught) configured to pre-store setup information, wherein the setup information includes a setting for driving a which includes an operating mode of the load or a setting for display (col. 3, lines 4-46),  
wherein the control unit is configured to control the switching element to reach a desired on or off state based on- information concerning an operation of the load preset by the second storage unit (Fig. 1, col. 3, lines 4-46).  
wherein the main circuit unit and the control unit are detachably attached to each other

such that the control unit can be replaced with another control unit which is different from the control unit (i.e., the computer 7 can be replaced by another identical one having the same communication interface with the main unit)(Fig. 1).

'870 discloses the invention except for a plurality of detectors and used for the control of the power converter circuit.

'832 discloses a inverter (Fig. 5, 7) using a power converter to convert the dc voltage to AC voltage. '832 further discloses that by using DC voltage, output voltage and current information detected by using dc voltage detector (8), output voltage detector (14), and the output current detector( 7) the desired output power can be obtained (col. 5, lines 1-30).

Therefore, it would have been obvious to one of ordinary in art at the time of invention to have used the current and voltage detectors of '832 to detect the input/, output voltage and output current of in the power converter system of '870, as taught by '832, in order to have obtained the desired the output power of the power converter since '832have demonstrated that it is a suitable method in order to have obtained the desired output power from a power converter system.

Claims 8-9, '870 and '832 teach the limitations of claims 4-7 as discussed above. '870 further teaches that the main circuit further comprises a harness having a first connector attached thereto (i.e., the wiring of the 64 to 38), wherein the control unit further comprises a second connector (i.e., serial connector of the PC to connect to 64) (Fig. 1) which is disposed on a side wall surface (i.e., a wall of the PC is implicitly taut) of the control unit, the control unit being united to the main



circuit unit (i.e., when the connectors are connected), and wherein the main circuit unit and the control unit are electrically connected by connecting the first connector (64) and the second connector (i.e., the serial connector of the PC to connect to 64) (Fig. 1).

### ***Allowable Subject Matter***

10. ***Claim 10 is objected to*** as being dependent upon the rejected base claim 4, but would be allowable if rewritten in independent form including all of the Limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

The prior art does not fairly teach or suggest that the electric power converter of claim 4 performs open-loop control when using the control unit, and performs closed-loop control when the control unit being replaced by another control unit.

### ***Response to Amendment***

11. Applicant's arguments filed 11/3/2008 have been fully considered but are moot in vie of the new ground of rejections.

### **Examiner's Note:**

12. Examiner has cited particular columns and line numbers in the references applied to the claims above for the convenience of the applicant. Although the specified

citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in their entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

13. In the case of amending the claimed invention, Applicant is respectfully requested to indicate the portion(s) of the specification which dictate(s) the structure relied on for proper interpretation and also to verify and ascertain the metes and bounds of the claimed invention.

14. The prior art made of record in form PTO892 and not relied upon is considered pertinent to applicant's disclosure.

### ***Conclusion***

15. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

### ***Communications***

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to JUE ZHANG whose telephone number is (571)270-1263. The examiner can normally be reached on M-Th 7:30-5:00PM EST, Other F 7:30AM-5:00PM EST

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Akm Ullah can be reached on 571-272-2361. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Unit 2838

JZ